Harnessing data and digital technology

Submission

Population Health Research Network

September 2025

ABOUT THE PHRN

The Population Health Research Network (PHRN) is one of Australia's premier national research infrastructures, advancing innovation through the secure linkage, management and use of high-quality health and human services data. By partnering with researchers, government, industry and the community, PHRN equips Australian researchers with a competitive edge to conduct transformative, data-driven research. Hosted by the University of Western Australia, the PHRN plays a critical role in driving health and social research excellence nationwide. The PHRN is funded by the Australian Government's National Collaborative Research Infrastructure Strategy (NCRIS).

Our Roles

- We are a respected, independent and trusted broker, valued for bringing governments, organisations, individuals and data together securely.
- We collaborate to enhance and maintain significant, innovative research infrastructure to improve the nation's data linkage capability.
- We facilitate and grow the use of linked data in the areas of health and human services.
- We advocate for an improved authorising environment for better access, use and sharing of data.
- We support the whole of government focus on accessing, sharing and using data for the national good.

Our Vision

Linking life data to improve the wellbeing of all Australians

Our Mission

To lead and enable the linking of data for world class, action-oriented research

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PHRN RESPONSE TO THE PRODUCTIVITY COMMISSION'S INTERIM REPORT: HARNESSING DATA AND DIGITAL TECHNOLOGY

Overview

The PHRN welcomes the opportunity to contribute to the Productivity Commission's Inquiry into harnessing data and digital technology.

High quality, population-wide data is the cornerstone on which transformative research is built, enabling the examination of core issues affecting the health and well-being of the Australian population, and driving improvements in service-delivery, government initiatives and healthcare. Digital technologies, including artificial intelligence (AI) have the potential to revolutionise how researchers interact with data, impacting every aspect of the research process: from data gathering, to data analysis, outputs, peer review, and research translation. Potential benefits include increased efficiency in (data access-related) decision making, reduced costs, broader communication of findings, faster completion of projects, and the earlier realisation of research-related benefits. At the same time, the potential risks of AI must be acknowledged and addressed. Sensible regulation that enables the efficient uptake of digital technologies whilst minimising potential harms is critical to maximising the effectiveness and impact of AI in research and across industry.

The PHRN supports several of the draft recommendations contained in the Interim Report. In particular, the PHRN supports a proportionate, risk-based, and technology-neutral approach to AI, and agrees that a comprehensive gap-analysis should be the starting point for AI regulation. However, the PHRN is not convinced that AI-specific regulation should be a last resort. Such a viewpoint is difficult to support in the absence of a complete (and completed) review of existing regulatory frameworks. Further, the dynamic nature of AI and its rapid evolution brings with it unforeseen risks. Broader, ex ante regulation that operates in conjunction with current legislative frameworks may be better placed to mitigate potential harms before they eventuate than reliance on existing laws alone. Such regulation, perhaps implemented through a framework approach, could remain principles-based and largely technologically neutral to increase its applicability, whilst avoiding duplication and lending clarity to issues such as the attribution of liability under existing regimes.

The PHRN also supports the Productivity Commission's recommendation to amend privacy legislation to introduce an alternative, 'outcomes-based' compliance pathway. In the PHRN's view, aspects of the current privacy regime are overly burdensome and create barriers to the secondary use of data for important purposes, including research, without achieving significant benefit for the individuals they are intended to protect. An alternative outcomes-based approach would increase project feasibility and reduce costs by enabling researchers to access, use, and disclose population-health data on a broader scale, without needing to satisfy inhibitive notification and consent requirements. At the same time, and if implemented properly, such an approach should ensure that researchers, government, and industry remain accountable and that appropriate protections are maintained. The PHRN notes that implementing an alternative compliance pathway will likely require concomitant amendments to ethical guidelines and statutory requirements, and to state and territory privacy legislation, to ensure consistency and ease of uptake.

The PHRN's responses to specific recommendations made by the Productivity Commission are set out below.

Response to the Draft Recommendations

Artificial Intelligence

Recommendation 1.1:	Productivity growth from AI will be built on existing legal foundations. Gap analyses of current rules need to be expanded and completed.

A comprehensive analysis of existing legislation to determine the ability of current frameworks to safely regulate AI is a sensible starting point. The PHRN understands that:

> AI has the potential to revolutionize academic research in different aspects of research development by enabling the analysis and interpretation of vast amounts of data, creating simulations and scenarios, clearly delivering findings, assisting in academic writing, and undertaking peer review during the publication stage.[1]

Additional potential benefits for cross-jurisdictional research using linked administrative data include the streamlining of data linkage processes through automated matching of linkage variables and unique identifiers, and increased efficiency for project approvals through automated or assisted decision-making.

At the same time, concerns about the risks of AI, and particularly the use of Large Language Models (LLMs) are prevalent in the research community, and include:

> ethical, copyright, transparency, and legal issues, the risk of bias, plagiarism, lack of originality, inaccurate content with risk of hallucination, limited knowledge, incorrect citations, cybersecurity issues, and risk of infodemics.[2]

A review of current frameworks to assess and clarify how these issues are, or will be, regulated is warranted. Absent this, researchers and industry may be reluctant to invest in and utilise AI for fear of breaching their obligations and being subject to penalties and reputational damage.

The PHRN acknowledges that several gap-analysis reviews have already commenced, and that the Australian Government has committed significant funds in the 2024-2025 budget to support, inter alia, ongoing work over the next five years to 'clarify and strengthen existing laws' with respect to their application to AI.[3] Reviews into consumer law, copyright law, and health and therapeutic goods legislation are already underway (or complete), as are other jurisdictionally-specific reviews regarding the impact of AI in discrete areas.[4]

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[1] Zuheir N Khlaif et al, 'The Potential and Concerns of Using AI in Scientific Research: ChatGPT Performance Evaluation ' (2023) 9 *JMIR Medical Education* e47049: 1 – 16, 2. See also: Mohamed Khalifa and Mona Albadawy, 'Using Artificial Intelligence in Academic Writing and Research: An Essential Productivity Tool' (2024) *Computer Methods and Programs in Biomedicine Update* 100145: 1 – 11, 2.

[2] Malik Sallam, 'ChatGPT Utility in Healthcare Education, Research, and Practice: Systematic Review on the Promising Perspectives and Valid Concerns' (2023) 11 *Healthcare* 887: 1 – 20, 1.

[3] Australian Government, Treasury, *Review of AI and the Australian Consumer Law* (Discussion Paper, October 2024) 3.

[4] For example, the NSW Law Reform Commission is seeking input on how the use of AI may affect liability in automated decision making, see: NSW Law Reform Commission, *Review of the Anti-Discrimination Act 1977 (NSW): Unlawful Conduct* (Consultation Paper, May 2025) 222.

The PHRN agrees with the Productivity Commission's assessment that further gap analysis reviews are required and should be completed in a coordinated manner as a matter of urgency. Specifically, and at a minimum, a thorough review of privacy, data sharing, discrimination, human rights, corporate governance and criminal law should be undertaken, together with appropriate community consultation, to understand the capacity of current frameworks to effectively regulate known AI related risks and challenges.

The Productivity Commission has recommended that 'all reviews of the regulatory gaps posed by AI should consider:

- the uses of AI
- the additional risk of harm posed by AI (compared to the status quo) in a specific use-case
- whether existing regulatory frameworks cover these risks potentially with improved guidance and enforcement; and if not how to modify existing regulatory frameworks to mitigate the additional risks'.[5]

The PHRN suggests that the reviews may also benefit from specific consideration and description of:

- The potential benefits of AI in specific use-cases
- The nature and likelihood of any risks identified, including their impact and level of potential harm
- How any identified benefits should or could be weighed against the identified risks posed by AI, and how competing interests should best be balanced.

Addressing these questions is likely to assist regulators to form conclusions not only about what technical amendments are necessary to address identified risks (for example, definitional changes or the introduction of new penalties), but whether and how intensely an activity and AI-related risk is best regulated, and whether (and to what extent) the adoption of guardrails or specific AI framework regulation should occur, to better inform a national approach. Such reviews should also clearly articulate any persisting areas of legal uncertainty (both with respect to regulatory coverage, and how existing provisions may apply in different use-cases) and undertake an assessment of the overall modernity and robustness of the relevant framework, with a view to assessing its capacity to respond to AI-related risks that are yet to materialise.

Recommendation 1.2: AI-specific regulation should be a last resort

As noted above, the PHRN supports the completion of a comprehensive process of gap-analysis prior to the introduction of any AI-specific regulation. However, the PHRN does not, at this stage, agree with the Productivity Commission's recommendation that, following such review:

> AI-specific regulations should only be considered as a last resort for the use cases of AI that meet two criteria. These are… where existing regulatory frameworks cannot be sufficiently adapted to handle the issue [and] where technology-neutral regulations are not feasible.[6]

In the absence of a complete review of relevant legislation, such a recommendation appears premature. It may be that existing regimes are capable of addressing identified AI risks, either through

[5] Australian Government, Productivity Commission, *Harnessing Data and Digital Technology* (Interim Report, August 2025) 19.
[6] Australian Government, Productivity Commission, *Harnessing Data and Digital Technology* (Interim Report, August 2025) 20.

current provisions or with some amendment.[7] It is not yet clear, however, how these amendments or regimes will intersect when AI-related issues cut across disciplines. Additionally, industry or area-specific AI regulation that 'fills the gap' may work in some instances but have the potential to create regulatory siloes and a fragmented landscape where interconnected issues are dealt with in isolation (and potentially in duplicate).[8] Overarching AI regulation that complements existing legislation and sets clear expectations that transverse industries may be a better approach.

From the PHRN's perspective, economy-wide, ex ante AI regulation (such as the proposed mandatory guardrails)[9] is attractive to researchers in two respects. First, it will reduce their regulatory burden. Researchers are already required to navigate an intricate array of legal, ethical, and administrative requirements to access and use data for research. A regulatory approach that seeks to address the 'problematic' aspects of AI under disparate regimes may exacerbate this burden. It will require researchers to have a working knowledge of, and successfully navigate, additional and complex statutory regimes to understand what their responsibilities are, how and to what extent they (and their data) are protected, and where the onus lies in each situation. For example, a researcher using AI to generate synthetic data, analyse that data (or alternatively real world, de-identified clinical trial data), write up their findings and publish results must consider:

- How the synthetic data has been generated and what links it retains to any original dataset (bias, privacy considerations, potential copyright considerations)
- Whether the data is accurate, and whether any subsequent analysis is accurate (miscalculation, hallucinations, bias, discrimination and privacy considerations)
- Whether the AI software meets appropriate standards to protect any identifiable data (privacy, cybersecurity, obligations under public health legislation where linked data is also used)
- What will or can happen to data input into an LLM to assist with writing up (e.g. who else may access it, who owns it) (copyright, privacy, ethical obligations)
- Whether and to what extent a researcher is liable for any harm created by reliance on research later shown to contain hallucinations, errors etc. (civil liability, criminal conduct)

These issues are relevant to researchers and their institutions not only from a legal and liability perspective, but also from an ethical standpoint. Their level of understanding will influence their ability to obtain ethical approval, as well their overall willingness to use and rely on AI. Such considerations may also impact the willingness of data custodians to provide access to linked administrative data where AI forms an integral part of a research project.

An economy-wide, framework approach that lays out a minimum set of AI-related requirements is likely to reduce this regulatory burden by providing a starting point for researchers (and others)

[7] This has been the finding of the Department of Health, Disability and Ageing and the Therapeutic Goods Administration, see: Australian Government, Department of Health, Disability and Ageing, *Safe and Responsible Artificial Intelligence in Health Care - Legislation and Regulation Review* (Final Report, March 2025) 12; Australian Government, Department of Health, Disability and Ageing (Therapeutic Goods Administration), *Report: Clarifying and Strengthening the Regulation of Medical Device Software including Artificial Intelligence (AI) – Outcomes from the Review of Therapeutic Goods Legislation, Regulation and Guidance* (July 2025) 5.

[8] See for example recent comments by the Australian Information Commissioner, who highlighted that 'fragmented [AI] policies carry the risk of hindering progress and realising risks' and advocated for 'regulatory cohesion … achieved by establishing clear, consistent and interoperable obligations': Elizabeth Tydd, 'Artificial Intelligence, Law and Society' (Speech, Artificial Intelligence, Law and Society Conference, 13 February 2025).

[9] Australian Government, Department of Industry, Science and Resources, *Safe and Responsible AI in Australia: Proposals Paper for Introducing Mandatory Guardrails for AI in High-Risk Settings* (September 2024).

seeking to understand the obligations of AI developers and the general development process. Any such regulation (whether in the form of mandatory guardrails, standards, or something else) could adopt a flexible, principles-based approach that requires developers to take reasonable steps to ensure the accuracy and integrity of their software, for example through program testing and screening of input data.[10] This early-stage intervention has other potential benefits. The Department of Industry, Science and Resources has, among others, suggested that controlling risks that arise during the development phase lessens the likelihood of later (and unforeseen) problems eventuating, preventing biases and other issues from becoming embedded in outputs and reducing reliance on laws that can only address harms after they have already occurred.[11] Such regulation may also assist with determining or proving liability in different case-scenarios under specific legislation. For example, by providing insight into how programs are created and tested, such regulation may partially combat the AI 'black box' issue, in which invisible algorithmic processes make proving wrongdoing (for example discrimination in decision-making) difficult.[12] From another perspective, such regulation could prove attractive to developers if compliance with requirements is deemed to reduce or obviate their liability and shift the onus to deployers or end users (where appropriate).[13]

A second consideration in favour of economy-wide AI regulation from a research perspective relates to trust. The Productivity Commission has previously recognised that 'in Australia, trust is the central driver for widespread acceptance of AI'.[14] However, public trust in AI remains low.[15] Measures to promote trust in the ability of researchers to protect the data of clinical trial participants where AI is used, and trust in the validity and rigour of published research that has used AI, are likely to be critical to the concerted uptake of AI in research. A joint study by the University of Queensland and KPMG Australia notably found that the general public 'expect some form of external, independent oversight, such as regulation by government or a dedicated independent AI regulator'.[16] Specific-AI regulation that is seen to address some of AI's perceived difficulties may go some way to assuaging public concerns and increasing public trust in the adoption and use of AI technology. It is also likely to assist researchers' peace of mind knowing that the AI technology they are using is compliant with a minimum set of national requirements.

The PHRN acknowledges that the introduction of centralised regulation (such as the mandatory proposed guardrails) is not a catch-all solution to the risks posed by AI and may have productivity-related or other drawbacks. However, given the benefits of a cohesive regulatory approach the PHRN

[10] Noting that the Australian Government's proposed mandatory guardrails for high-risk AI already suggest many of these, including testing requirements, risk management processes and data governance measures: Australian Government, Department of Industry, Science and Resources, *Safe and Responsible AI in Australia: Proposals Paper for Introducing Mandatory Guardrails for AI in High-Risk Settings* (September 2024) 35.

[11] Australian Government, Department of Industry, Science and Resources, *Safe and Responsible AI in Australia Consultation: Australian Government's Interim Response* (2024) 13; Australian Government, Department of Industry, Science and Resources, *Safe and Responsible AI in Australia: Proposals Paper for Introducing Mandatory Guardrails for AI in High-Risk Settings* (September 2024) 17.

[12] For example, Justice Mordy Bromberg, President of the Australian Law Reform Commission has observed that the attribution of legal liability will likely 'face problems of proof' because of AI's lack of transparency: see Justice Mordy Bromberg, 'The Challenge of AI for Law Reform and the Legal Profession' (Speech, Australian Law Forum, 14 August 2025).

[13] Using, for example, a safe harbour or outcomes-based approach.

[14] Australian Government, Productivity Commission, *5-Year Productivity Inquiry: Australia's Data and Digital Dividend* (Inquiry Report no. 100 (Vol. 4, 2023) 83.

[15] Australian Government, Department of Industry, Science and Resources, *Safe and Responsible AI in Australia: Proposals Paper for Introducing Mandatory Guardrails for AI in High-Risk Settings* (September 2024) 3.

[16] Nicole Gillespie et al, *Trust in Artificial Intelligence: A Global Study* (The University of Queensland and KPMG Australia, 2023) 71.

submits that it remains preferable to implementing industry-specific AI regulation as a last resort. This is particularly so as such regulation could be implemented through a framework approach,[17] which enables consideration of where and how such regulation should apply (including whether any industries or areas should be exempt), in a way that complements reforms to existing legislation.

Recommendation 1.3:	Pause steps to implement mandatory guardrails for high-risk AI

The PHRN agrees with this recommendation.

Whilst the PHRN supports the introduction of economy-wide AI regulation (see response to Recommendation 1.2 above) the proposal to introduce mandatory guardrails is premature. Any centralised regulatory response should be informed by the outcome and findings of the gap-analysis. Further consultation with regulators regarding how current frameworks may best respond to AI's challenges, and what is more appropriately left to the guardrails (or similar regulation) may also be warranted. The Productivity Commission has previously observed how reactionary approaches by government to digital, data and cyber security issues can lead to unintended consequences and greater uncertainty for regulated entities.[18] Implementing the guardrails as a mandatory requirement at this stage and prior to the completion of the gap-analysis runs this risk and increases the likelihood of regulatory duplication and poor interoperability, creating greater confusion (including through the introduction of piecemeal amendments) in the long-run.

Until the reviews of the gaps posed by AI to existing regulatory structures are completed, steps to mandate the guardrails should be paused. These analyses should be completed as a matter of urgent priority.

Privacy Regulation

Recommendation 3.1:	An alternative compliance pathway for privacy

The PHRN agrees with this recommendation.

Aspects of the current privacy regime create unnecessary barriers to the effective use of data for research. As the Productivity Commission has identified, an 'overly legalistic' focus on privacy safeguards, including consent and notification requirements, often results in significant compliance costs. At the same time, it can create a tick box approach that fails to provide individuals with meaningful protection.[19] For researchers using population-wide data, significant time and effort is spent working out how best to obtain informed consent to the use of participant information, or persuading human research ethics committees and data custodians that such a requirement should be waived on the basis of impracticability given the size and scope of the proposed study. An alternative, outcomes-based approach that shifts the focus from impracticability to one predominantly concerned with harm minimisation (something that researchers already consider, but

[17] See Australian Government, Department of Industry, Science and Resources, *Safe and Responsible AI in Australia: Proposals Paper for Introducing Mandatory Guardrails for AI in High-Risk Settings* (September 2024) 48.
[18] Australian Government, Productivity Commission, *5-Year Productivity Inquiry: Australia's Data and Digital Dividend* (Inquiry Report no. 100 (Vol. 4, 2023) 90.
[19] Ibid 88; Australian Government, Productivity Commission, *Harnessing Data and Digital Technology* (Interim Report, August 2025) 54 - 55.

that could then be given greater attention) and the protection of the best interests of individuals in the research cohort is one that is likely to offer greater practical protection whilst reducing research approval costs and timelines. Some cost may be involved in the initial implementation (e.g. educative initiatives, procedural updates) as researchers, data custodians and other stakeholders become accustomed to an outcomes-based approach, but these are unlikely to be prohibitive or sustained long-term. Related amendments to the *National Statement on Ethical Conduct in Human Research*, state and territory privacy legislation, and the removal of, or amendment to, statutory guidelines made under privacy legislation that set current requirements for the secondary use of data for research without consent will also be required.

The PHRN has no preference or recommendation regarding the specific design of the alternative compliance pathway. It is, however, worth noting that researchers are already subject to an overriding ethical obligation to respect the dignity and privacy of individuals and that they are required to act in ways that protect and are sensitive to the interests and vulnerabilities of their research cohort. Consequently, there is likely to be little ill effect introducing a 'best interest' obligation (for researchers) under privacy legislation. The situation may be less straightforward in other cases. Individuals within businesses or commercial enterprises that are already subject to obligations (such as directors' duties to act in the best interests of the company) may find that these pre-existing duties conflict with a 'best interest' privacy obligation. Careful consideration of how these interests should be balanced and prioritised in the event of a potential conflict is required.

Recommendation 3.2:	Do not implement a right to erasure

The PHRN supports this recommendation.

Implementing a right to erasure under privacy legislation is problematic in several respects. For researchers, such a right will compromise their ability to conduct population-wide research (for example, when data is erased from government administrative data collections), leading to incomplete datasets, skewed results and bias that reduces the utility of their findings. This in turn is likely to have flow on effects for the efficacy of treatments, policies, and programs that are developed and implemented based on these studies. For researchers conducting clinical trials with individual participants, the right may create an untenable logistical burden if exercised following the completion of data analysis and the publication of research. Significant cost, time, and administrative effort would be expended isolating and erasing participant information in such contexts, with little practical benefit to the individual, given published results are likely to be de-identified and aggregated as a privacy-preserving measure in almost all cases. Removing identifiers such as an individual's name, address, or postcode (with the intention of rendering data de-identified, so that it is no longer subject to the right) is unlikely to assist with reducing this burden, as unit-level record data is often of sufficient specificity and detail so as to be considered identifiable for the purposes of privacy legislation, even when these 'identifying' details are removed.

An additional complication of the right to erasure is its potential impact on data linkage practices. Health care identifiers and unique identifiers are, in some jurisdictions, expressly defined by legislation as personal information or health information,[20] which would bring them within the realm of information that could be erased if such a right was introduced. A right to erasure would not only

[20] *Privacy and Responsible Information Sharing Act 2024* (WA) s 4; *Health Records and Information Privacy Act 2002* (NSW) s 6(e). The definition of 'healthcare identifiers' in the NSW legislation is narrow and has the same meaning as in the *Healthcare Identifiers Act 2010* (Cth).

remove these identifiers from data linkage units (preventing access to otherwise de-identified linked data for research) but would result in significant administrative and logistical challenges for governments providing services and continuity of care, without clear practical benefit.

The PHRN agrees with the Productivity Commission that a right to erasure should not be introduced.

Conclusion

The PHRN thanks the Productivity Commission for the opportunity to contribute to this Inquiry. Should you wish to discuss our submission please do not hesitate to contact us.